

FIGURE 1A

Nucleotide sequence of the partial PP2A-2 from *Physcomitrella patens* (SEQ ID NO:1)

GCACGAGGAGGACAAGTCTTCCGAACCCAGCTTAGAGTACTGGTTCAAGTGTGTAG
ACCTGGATTGTGACGGGATGATTATGCTACGAGGAGATGCAATATTTTTACGAGGAG
CAACTTCATCGGATGGAGTGCATGGCTCAGGAGCCTGTTCTTTTTGAGGATATCGTT
TGTCAAATGACAGATATGATCGGACCTGCTAATGAAGGACGGTTGACACTTCGGGA
CTTAAAGCGATGCAAATTATCTGGAACTTCTTCAATATCCTTTTTAACCTCAACAA
ATTCGTAGCTTTTGAGACTCGTGATCCTTTCCTTATTCGTCAGGAGAGAGAGGACCC
GTCATTAAGTGGGATCGATTTGCACACATTGAGTACATCCGACTTTCAATGGA
AGAAGATGGCGAGGATGCCTCCAACGGCAGTGCTGAAGTCTGGGATGAGCCTGGTT
ACGAAGCCCCCTTTTAACCTTCTGTTGTCCCTCAAGATCCAGGCATTTGAATCATCAG
AGCAGAGACGGACGGCACGAAGAATTGCCTGCTGGACTTTTAAGAAAAGTGGTCTG
TGCAACCCTTTAAAGGTTGTCATTTATATCGTAAAGCATCTTGTTGAGTGAGCATCCT
GCCTAGGGGACCCTGTCTCTACTTTAACATC

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FIGURE 1B

Nucleotide sequence of the partial PP2A-3 from *Physcomitrella patens* (SEQ ID NO:2)

CGGCACGAGGAAGCAGGTTAGAACCTCAATGTGGATCCCGGAGCTAGAGGAAATGG
GAGTTTGCTGACAAATAGTATGTTGCTTAATCCAAAGGGCTTGGCACCACGTCTATC
ATCAAACGGAGGACCTGTGACACGAGGCATGCCGTAATCAGCCAGGACTTTGTATTT
CCTCCTGGAGGCATTCCGTCACTTCATCTTCCCTCGGTAGTAGTTTGGAGTAACGAA
ACGACATTAGTTGCGAGATGTAGAAGAGTCTACGCAAACGCTCATGCATATCACATC
AACTCCATATCCAACAACAGCGATTGTGAGACATACATATCTGCAGATGATTTGAGA
ATAAATTTATGGAACCTTGAAGTTAGTGATCAGAGTTTCAACATTGTTGACATCAAA
CCAACAAACATGGAAGACCTTACAGAGGTGATAACGTCTGCAGAGTTCCATCCTACT
CATTGCAATGTGTTAGCATACAGTAGCAGCAAGGGCTCCATTGACTCATTGATATG
CGTCAATCAGCCTTGTGTGATCGACACTCTAAAGCTGTTTGAGGAAGAACTGGAGCC
CATCCTGGATCCAAGATCCTTTTTTTCACAGAAATCCATAGCTTCAATTTCTGACATT
AAGTTTGCAAGAGGCGATCGGTACATTCTCCAGTCGGGGACTACATGGACTCTGAA
ACTGTGGGATGTGAACATGGAATCTGGTCCCTGTGGCACGTATTTAAAGTCCACGAG
CATTTGCGACCAAAGCTTCGTGATCTCTATGAGAACGATTCACCTCCGATAATTGAT
GTGTCCGGGG

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2
--	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	---

GGCACGAGGAAGTATGGAAATGCGAATGTTTGGAAAGTACTTCACGGATCTGTTCGA
CTACCTGCCTCTGACAGCTCTCATTGAGCACGAGATTTTTTGTCTTCATGGTGGTCTG
TCTCCATCGCTCGACACATTAGATCACATCCGAGCCCTAGATCGTATTCAAGAAGTG
CCGCACGAGGGCCCGATGTGTGATCTACTCTGGTCTGATCCAGATGATCGTTGTGGA
TGGGGTATTTCAACCACGAGGTGCCGGTTATACTTTTGGTCAAGATATTGCAGAGCAG
TTCAATCATAACCAATGGTCTAAGTTTGGTTGCACGTGCTCACCAGCTTGTGATGGAA
GGATACAATTGGTGCCAGGATAAAAATGTTGTACAGTTTTTCAGTGCCCCCAATTAC
TGTTACCGCTGTGGGAACATGGCCGCCATAATGGGAGATAGATGAAAC

FIGURE 1D

Nucleotide sequence of the partial PP2C-1 from *Physcomitrella patens* (SEQ ID NO:4)

GCACCAGGTTACTGTGGGGCCTCGTCCCCCGGAAGAGCATGTTAGCTGGGGTTAGA
GAGCTAGGGCAGTGAGTGCCGATCATTTTTGCGTCACGCGTATCGATTTGCAAGGGC
GAAGTGCACAAGAGGGATGGGAATTTATCTTTGCTCTCCAAAGACTGACAAGACAT
CCGAAGATGATGAGAATGCCGAGTTACGCTATGGTTTATCAGCCATGCAAGGGTGG
CGCGATAGCATGGAGGATGCACACAAAGCTATCTTAAACGTTGATAAGAACACGTC
AACATCAATATTTGGCATCTTTGATGGTCACGGAGGTAAATTGGTGGCAAAATTTTG
TGCAAAGCACTTACACCAAGAGGTTCTGAAGTCTGAAGCGTACGCTAAAGGTGACT
TAAAAGCAAGTTTGGGAATATTCCTTTTTACGGATGGATGAGATGATGAAGGGAGCA
AGTGGGTGGAAAGAGCTTCAAAGTTTGGAGGAAACAAGTAGTCAGCTTGATAAACT
CGGTAATGGAAATAGCTCCTCTAATGCGAGGGAGGATGACGAAAGTGATTATTCCT
ATGCTGTGCTAACTGAAAGCAATGATAGT

FIGURE 1E

Nucleotide sequence of the partial PP2C-2 from *Physcomitrella patens* (SEQ ID NO:5)

CGGCACACNGTTTGTACCGCCATTTACAGAAATTGCCACCCAACATGGGGGAATGTC
TAGTGAGGTTCTTCAGTCAAGCCTTTAAGCAGACCGAGGAGGGGTTTTTGGAAATCG
TAAGGGATTCATGGCTCACGAAGCCCCAGATTGCTGCCGTTGGTTCCTGTTGCCTGG
TAGGTGTGGTGTGGGAGTGTAAGCTGTACATCGCCAGCCTGGGTGATTCTAAGGCTG
TGCTCGGTAGATTCTCTCGCAATTTGCAATCAGTAATTGCGACGGAGATATCCTNCT
GAGCATAACGCCAGTGTTGAGGCTGTTAGGCAGGACCTGCAAGCTGCGCATCCTGA
TGACCCGCGCATTGTTGTGCTGAGGCACGGAGTGTGGCGTGTGAAGGGTTTGATTCA
AGTCTCTCGATCCATTGGCGACGTTTATCTGAAGAAGGCTGAGTTCAACCGTGAGCC
TCTAATCGGCCGGTTCGCGCTGCCAGAGCCGCTCCAGAGACCCGTCATGAGCGCCGA
GCCGGACATCCGAGTAATCGATCTGACCCCAGATGTGGAGTTGTGATTTTGCATCAG
ATGGGTTGTGGGAGCACT

FIGURE 2A

Nucleotide sequence of the full-length PP2A-2 from *Physcomitrella patens* (SEQ ID NO:6)

ATCCCGGGCATCGGGAAAGACGGTGTGTGTGTGTGTGTGTGTTGCTTGCTTGCATG
CATTGTGGGGGGTACCCAGATCATGCTTCAGGGAGGTTTGGAGTGCGCCCAATGGA
GCCCTTGACGTTGGCCGTGGCAGATCTGGACCCCGATCTGCTTCAACTCCCTGCGGA
TTTCACCCCCTTTGCTTCTCCTTCATCGTCATCGCCTGCTTCTGTGGGAGTTAGCAAC
AAGCTTGGAGGTGTTTGTAGGTTGCACTTGGAGGAGCTTTACGCGCAATGGATTTCG
CTGCCCCGACACGCAGCGTCTGGTTACGAATTTGTTGGAAGAAGCAAAAGGAGGAGC
TGGACACCCAAATGTTGGCCTATCACTTTTGCCAGGTCATCTATCTGGAGCCGCAGG
AAGCACTCCCCCGTTGCCTCCTCGGAGCTCTGGTTCACCAATGTCTCCAGGTCGCC
TTTCAGCAGACGTATGGGAACTAGCCACCTCATGCGGGACTCTCCGTTGAAGAAAA
GTAGCGAACCTGTGCGAGAGATCATACCCAGTTCTATTTTCCGAATGGGCCCCCGC
CATCGAAGGATACCATTGAGTCGTGCATGGCTCGCGTAAACCAAATATTCGGAGCTC
ATCCAGAAGGTTTACCTGCATCAGCATTTGCAACCATTACTAAGGATGTATGCAAAC
TACCGTCCTTCTTCTCCATGGCTTTATTCAAAAAGATTGACATCAATAATACAGGCTT
GGTTACAAGGGACAAGTTCGTAGAATACTGGGTGGACCAAAACATGCTGGCCATGG
ACACTGCAACTCGCGTCTTCACTGTGTTGAAGCAACCCGACAAGAATTTTCTGAGAC
AGGAAGATTTTAGGCCCGTTTTACGAGAATTGTTGTTGACGCATCGCGGTTTGGAAT
TTCTCCATGACACCCCGGAGTTTCAAGACAGATATGCTGAAACTGTAATATACAGAA
TATTCTACCATGTAAATAGAGCTGGGAATGGTCGGCTACAACCTTAGAGAGTTAAAGC
GGAGTAATTTAATTGCTGCTCTTCAGCAAGTGGATGAAGAGGAAGACATCAACAAA
GTGTTACGTTACTTCTCATATGAACATTTTTATGTCATATATTGCAAGTTCTGGGAGC
TGGATTCAGATCACGATTTTTTAATAGACAAAGATGATCTCCTTCGATATGGAAATC

FIGURE 2A

Nucleotide sequence of the full-length PP2A-2 from *Physcomitrella patens* (SEQ ID NO:6)

Continued

ATGCTCTCACCTACCGAATCGTAGAGCGTATCTTTTCCCAGGTTCCAAGAAAGTTCA
CCAGCAAAGTAGCTGGAAAGATGGGTTATGAAGACTTCGTATGGTTTATTCTTTCAG
AAGAGGACAAGTCTTCCGAACCCAGCTTAGAGTACTGGTTCAAGTGTGTAGACCTG
GATTGTGACGGGATGATTATACTAAATGAGATGCAATATTTTACGAGGAGCAACTT
CATCGGATGGAGTGCATGGCTCAGGAGCCTGTTCTTTTGGAGGATATCGTTTGTCAA
ATGACAGATATGATCGGACCTGCTAATGAAGGACGGTTGACACTTCGGGACTTAAA
GCGATGCAAATTATCTGGAAACTTCTTCAATATCCTTTTTAACCTCAACAAATTCGTA
GCTTTTGAGACTCGTGATCCTTTCCTTATTCGTCAGGAGAGAGAGGACCCGTCATTA
ACTGAGTGGGATCGATTTGCACACATTGAGTACATCCGACTTTCATGGAAGAAGAT
GGCGAGGATGCCTCCAACGGCAGTGCTGAAGTCTGGGATGAGCCTGGTTACGAAGC
CCCCTTTTAACCTTCTGTTGTCCCTCAAGATCCAGGCATTTGAATCATCAGAGCAGA
GACGGACGGCACGAAGAATTGCCTGCTGGACTTTTAAGAAAACCTGGTCTGTGCAAC
CCTTTAAAGGTTGTCCATTTATATCGTAAAGCATCTTGTTTGAGTGAGCATCCTGCCT
AGGGGGACCCTGTCTCTACTTTAAAATCAGACAATGCATGTGACATTTGTACAGTTC
ACAAATGGCAGCATTTATCTATTTAGGAAGTCCTTCAACATTATATCTTTCAGGTCTC
CAGCTCGCCATTTACGGGTGCTACTGTAACCTCGAGTCCTTGTGCAAGAATCATGAAG
AATACTGAGCATGGCGACGTCCAAAACCTTCGAGACAACGTCAAAGAACTACTTGAC
CGGTCTCTCAACAAGTTCTGTTACTTAAGTGCACAGCACTGGGGTAGCCCTCTTGCTT
TCAAAATCACTGTGTGTGACACTGTAGCTACTACTTCAGGGAAATTGATGTTGGGCA
TTCTAGGCCTTCTGAGCTTTTTTTTGCAGGTCTTTTGTATGGTCTCCGTCACGTTATTTG

Nucleotide sequence of the full-length PP2A-2 from *Physcomitrella patens* (SEQ ID NO:6)

TTTAGGAATGAAGCAGCCTGCCCAGGATAGTGATGTAGACATGGTCCCGTTTCTGAT
CTTCTCAATCAGGCTTAACCATGCAGTAATTAAGCAGGTAGGCACAGTGTGCTCAAC
ACGTAATCCCCTTCCCACACTAGTCTTCTCTGTAGACTCTTTATTTACAGCTTTTGATCC
GGAACTTAAAGCTTTTGACTGGTTCAGCCCGAGGCTGGTAGCGTTAACGC

FIGURE 2B

Nucleotide sequence of the full-length PP2A-3 from *Physcomitrella patens* (SEQ ID NO:7)

ATCCCGGGTGGTGGTGGCGGTGAAGTTATTACCCGAGAGCTTCGACAGCTTCACGCA
TGTTTGCGATTGCACGCAAGGACGCAACTGGCTCCGTAGTTGTAATGAATGGATTCA
CCGCGATGCAAGCTTCTCAACGAGCCGTTGGAAGCTTCGTGTGGTGGAGTGTGGAA
ACTGCCGGAGCTCCGTAACCATGCGGGGTTCATGGAAGTGGTGGCTGCCAATTCGG
AGGCGGATTTCAATGTGGTAGAGTTTGGACTTAGAGTTTTGTAGGAGGAGGGGTTGA
AGTGTGGGCCAAGTGTGGGGCTCCTGAAACAGGGGAAAAGAAAAAGAGACGACG
ACGCCGGAGATTGGAGATTGAGGTGTGTGTGTGTGTGTGTGTGTGGTTAGTTTAGCGGT
TTGAAGTGATGATCAGTGGTGCAAGCGGGGCACCCGCTGGGGCCCCAGTTCCCACT
GCTACTGGTTCTGTTGCTGCGCCATTGCCCCGCTTGGAGTGGAAATTCTCGCAGGTTT
TCGGCGAGCGTGCCATCGGAGAGGAAGTGCAAGAAGTTGATATTATCTCGGCTATT
GAGTTTGATAAGACTGGAGAACATTTGGCGACTGGCGACAGAGGAGGACGCGTTGT
ACTTTTTGAGAGAACAGATGGCAAAGATCAAAGGACACGGAGAGAGTTGGAAAGA
GCTGATTCTGCGGGGTCCAGGCATCCTGAATATCGATACTCTACCGAGTTTCAAAGT
CATGAACCAGAGTTTGATTACTTGAAGAGTTTGGAAATAGAGGAGAAGATCAATAA
AATTAGATGGTGTGAGACTGCCAACGCCGCTCAGTTCTTAATTTCTACGAATGACAA
AACCATTAAATTATGGAAGGTGACTGAAAAGAAAGTGAAGCAAGTCAAGAACCTGA
ATGTGGATCCTGGAGCCAGAGGGAATGGAAACCCATTGTGGAATAACATGATGCTC
AATCCAAAGGGTTTTGCACCACGGTTGTCGATGAATGGAGTTGCCGCGAACCGATCT
ACGCCTGCCATCAGCCCTGACTTTGTATTTCTCCTGGAGGCATTCCGTCTCTTCATC
TTCCCTCGGTATGGAGTAACGAGACGGCATTAGTTGCGAGATGTAGAAGAGCCTAC
GCAAACGCTCATGCATATCATATCAACTCCATATCTAACAACAGCGATTGTGAGACA

FIGURE 2B

Nucleotide sequence of the full-length PP2A-3 from *Physcomitrella patens* (SEQ ID NO:7)

Continued

TACATCTCTGCAGATGATTTGAGAATAAATTTATGGAATCTTGAAGTTAGTGATCAG
AGTTTCAATATTGTTGACATCAAACCAACAAACATGGAAGACCTTACAGAGGTGAT
AACGTCTGCAGAGTTCCATCCTTCTCATTGCAATGTGTTAGCATACAGTAGCAGCAA
GGGCTCTATTCGACTCATTGATATGCGTCAATCAGCCTTGTGTGATCGACATTCAAA
GCTGTTTGAGGAGACTGAGCATGCTGGATCAAGATCCTTTTTTTACAGAAATCATAGC
TTCTATTTCTGATATTAAGTTTGGCAGAGGCGGTTCGGTACATTCTGAGTCGGGACTA
CATGACTCTGAAATTGTGGGATGTGAACATGGAATCTTCCCCTGTGGCCGTATTTAA
AGTCCACGAGTATTTGCGTCCAAAGCTTTGTGATCTCTATGAGAACGACTCCATCTT
CGACAAGTTTGAATGTTGTCTTAGTGGGGATGGCATGCGTGTGGCAACTGGTTCCTA
CAGCAACTTGTTCCGGGTGTTTGGGGCCGCTACCGGAAGTGAGGAAGCGTCAACCTT
GGAAGCTAGCAAGACTCCAAACAGGCGTATCGTGACACCTCCCTCAAAGCTGGAA
GTCGACTAGCCAATCTTGCTCGTGGTCGGCGTGATAACCGTCGAGGTGGAGAAAGC
CCAGGTATAGATTTGAATGGGGGAGTGCAAGATTTACATCAAAGCTTTTGCACTTA
GCATGGCATCCAGCAGCGAATGTGATCGCTTTCGCGCTAGCGCGTTGCTCGCTGCAT
CCAACAGCTTGTACATGTTAACGC

FIGURE 2C

Nucleotide sequence of the full-length PP2A-4 variant from *Physcomitrella patens*

(SEQ ID NO:8)

GGCGTTAACGCGCGGAGGAGAGCGGATCGGTTAGGGTTTGGTGCCAGGGGGGAGGG
CAGAGGTTGGGACAATGCCGTCATATGCAGATGTAGACCGGCAGATAGAGCAGCTG
TCGGAGTGCAAGCCGTTGTCGGAGTTGGAGGTGAAGAACCTATGTGATCAAGCTCG
GACGATCTTGGTGGAGGAGTGGAACGTGCAGCCCGTGAAGTGTCTGTACGGTTTG
CGGTGACATCCATGGCCAGTTTCATGATCTCATCGAGCTTTTCCGCATAGGAGGCAA
GGCGCCCGACACGAACTACTTGTTTCATGGGCGACTATGTGGATCGTGGATATTATTC
TGTCGAGACTGTGTGCTCTTAGTGGCCCTGAAGGTGCGGTATAGGGATAGGATCAC
AATCTTGCGAGGGAACCACGAGAGCAGGCAGATTACGCAAGTATATGGTTTCTATG
ATGAATGCCTGCGGAAGTATGGAAATGCGAATGTTTGGAAAGTACTTCACGGATCTGT
TCGACTACCTGCCTCTGACAGCTCTCATTGAGCACGAGATTTTTTGTCTTCATGGTGG
TCTGTCTCCATCGCTCGACACATTAGATCACATCCGAGCCCTAGATCGTATTCAAGA
AGTGCCGCACGAGGGCCCGATGTGTGATCTACTCTGGTCTGATCCAGATGATCGTTG
TGGATGGGGCATTTCACCACGAGGTGCCGGTTATACTTTTGGTCAAGATATTGCAGA
GCAGTTCAATCATACCAATGGTCTAAGTTTGGTTGCACGTGCTCACCAGCTTGTGAT
GGAAGGATACAATTGGTGCCAGGATAAAAATGTTGTACAGTTTTTCAGTGCCCCCAA
TTACTGTTACCGCTGTGGGAACATGGCCGCCATAATGGAGATAGATGAAACAATGA
ATCGGTCTTTTCTTCAGTTCGAACCAGCACCGCGGCAAAGTGAACCAGATGTGACGC
GGAAGACTCCTGATTACTTTCTGTAAACATGGCCTATACATGGTACCTTTTACTTACT
GAATTGTTCTGTATAGTCACCTTCCATGGAAGCAGTTTGCCCCTGAATGAAGATACT
CCCTCATGATCTAGTAGTATGAAGTTATCTTCTTTGAAGTGTTTGTTCCTTTTTTAGT

FIGURE 2C

Nucleotide sequence of the full-length PP2A-4 variant from *Physcomitrella patens*

(SEQ ID NO:8)

Continued

ACTTGCTCCTCTGTTTCATTCATAAAGTTGCCTTCAGAACAACCTGAGATGTTGTGAATG
TAACTGCGACAAGAGGAGCAGTGTCAATGGTTGCAAGGGTTATAGTGATTAGGGAA
AGAAGGTAGCACATGTTACTTCAAATCGATCAGAGACTTCTATGGAAAAGATGACG
ATGGTGGAACAACGTTTCATCTCCACACCTACTGTATATGGCATGCTCGAGCTCGC

FIGURE 2D

Nucleotide sequence of the full-length PP2C-1 from *Physcomitrella patens* (SEQ ID NO:9)

GCGATATCGATTTGCAAGGGCGAAGTGCACAAGAGGGATGGGAATTTATCTTTGCTC
TCCAAAGACTGACAAGACATCCGAAGATGATGAGAATGCCGAGTTACGCTATGGTT
TATCAGCCATGCAAGGGTGGCGCGATAGCATGGAGGATGCACACAAAGCTATCTTA
AACGTTGATAAGAACACGTCAACATCAATATTTGGCATCTTTGATGGTCACGGAGGT
AAATTGGTGGCAAAATTTTGTGCAAAGCACTTACACCAAGAGGTTCTGAAGTCTGAA
GCGTACGCTAAAGGTGACTTAAAAGCAAGTTTGGAAATATTCCTTTTTACGGATGGAT
GAGATGATGAAGGGAGCAAGTGGGTGGAAAGAGCTTCAAAGTTTGGAGGAAACAA
GTAGTCAGCTTGATAAACTCGGTAATGGAAATAGCTCCTCTAATGCGAGGGAGGAT
GACGAAAGTGATTATTCCTATGCTGTGCTAACTGAAAGCAATGATAGTAACTTGGCC
ACTAAAAGCATAAATATTCAGATTTCCAGGGTCCCATTATGGGAGTACTGCAGTG
GTGGCTCTGATTCTGTGGCAATAAACTGTTCTGTCGCAAACGCTGGAGACTCTCGCTGC
ATAATGTCTCGACGTGGCGAGGCTGTAAATCTCTCGATTGATCACAAACCCAACCTA
GAGCATGAGAGGAAAAGGATAGAGAGTGCTGGAGGCTTCGTCCATGGTGGTCGTGT
TAACGGTAGTCTAAATCTTACAAGAGCAATAGGGGACATGGAATTCAAGGGTTCGAC
CTGATTTGCCACCTGACAAGCAAGTAGTGACGTGCTGTCCCGATGTTGTCTGAAGTTG
ACCTTGACCCGGGGATGAATTTATCGTGCTGGCCTGTGATGGAATATGGGATGTTA
TGTCTAGTCAAGCTGTCGTGGACTTCGTAAATCAAGATTACCTACCACCAAACTC
TATCATCTTTGTGTGAGGAGATACTGGATTACTGCTTGTCCCCAACCACCCGCCAGC
AAGAAGGATGTGATAACATGAGCATCATTATAGTCCAACCAAAGCAATCGGGAGTT
GCAGCATCTTCTTCCACAGATTGACGTTGATGACCTTCGTCTGGACGCTGGAGCTCAA
AACTCATTGTGGACTTCAACTTCTGAGTTCAAAGTTCCTTGTAGACTTCTTGTCATGT

Nucleotide sequence of the full-length PP2C-1 from *Physcomitrella patens* (SEQ ID NO:9)

Continued

CCAACTTCTACCTAATTTTGAATTTCAAAGACTTAAATATAAACCTAGATATAGGC
TGATCATAAAATTTCTGGGTCAAAGGCGTTATGGTCTTCTATTCAAATATAAGGTGAA
TTAATGCTAAAACTGGGAGTTGCCTTCTGCCTTCGATATCGC

Year	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

FIGURE 2E

Nucleotide sequence of the full-length PP2C-2 from *Physcomitrella patens* (SEQ ID NO:10)

ATCCCGGGCGTGGAAGGAGAGGGAATGTGGAGGAAAGAGTGGAGTTATTATTTGTC
AGTCGAATGTACAGGAAGAAGCGAAAAGGATATGGAGTGGAAATATGAAGAAGCT
GGTTGAAGAAGGACGTCTGAGAGATGGTAGAGTGGGTAATGAAGATGTTGATGGCA
TGTTGGCGTCCGGTGCAAAAATACACGCACCTGGGGGAGGAGAATGGAGATAACCA
CGACCCACTGCTGTGGCACAAGATTTGGGTGATCATGCCGCAGGACAGTTTTCTAT
TGCCGCAGTTCAGGCGAATGCTATCTTGGAGGACATGGTCCAAGTGGAAACTGGAC
CGTTTGGTACCTTTGTTGGGGTGTACGATGGCCATGGTGGCCCGGAAGCTTCTCGTT
ACGTCAATGACAGTTTGTACCGCCATTTACAGAAATTTGCCACCCAACATGGGGGAA
TGTCTAGTGAGGTTCTTCAGCAAGCCTTTAAGCAGACCGAGGAGGGGTTTTTGAAA
TCGTAAGGGATTCATGGCTCACGAAGCCCCAGATTGCTGCCGTTGGTTCCTGTTGCC
TGGTAGGTGTGGTGTGGGAGTGTAAGCTGTACATCGCCAGCCTGGGTGATTCTAAGG
CTGTGCTCGGTAGATTCTCTCGCAATTTGCAATCAGTAATTGCGACGGAGATATCCA
CTGAGCATAACGCCAGTGTTGAGGCTGTTAGGCAGGACCTGCAAGCTGCGCATCCTG
ATGACCCGCGCATTGTTGTGCTGAGGCACGGAGTGTGGCGTGTGAAGGGTTTGATTC
AAGTCTCTCGATCCATTGGCGACGTTTATCTGAAGAAGGCTGAGTTCAACCGTGAGC
CTCTAATCGGCCGGTTCCGCCTGCCAGAGCCGCTCCAGAGACCCGTCATGAGCGCCG
AGCCGGACATCCGAGTAATCGATCTGACCCCAGATGTGGAGTTTGTGATTTTTGCAT
CAGATGGGTTGTGGGAGCACTTGTCCAACCAAGAGGCTGTGGATATTGTTCACAAAT
ACCCGCGCGCTGGCATCGCCAGGCAGCTCATTGATACGCTCTTCATGAAGCGGCCA
AGAAGCGAGAGATGCGGTACTCGGATCTGAAGAAGATCGAGCGTGGTATCCGGAGA
CACTTTTCATGACGACATCACAGTGGTAGTCGTCTTCTTAGATCATAATTTGGTTAGCA

FIGURE 2E

Nucleotide sequence of the full-length PP2C-2 from *Physcomitrella patens* (SEQ ID NO:10)

Continued

ATGGTAGTGGTATCTCGCATCACATTTCTGTGAAAGGTGGAGTTGACAAACCTTCTT
GAAAAGGGGTCGTAGGTACTCTCCATGGTATCTTGCAGGTTTTGTACATGAACTT
CCCCCTTTCGCACGATGGGGTAGAAGTGATTGCTCCTTTGAAGCTACACCTCCCTGC
AACCCAATCGTCTGTCTGAACCTGAAGCTAGACACCCACAGGAGCTTGC

1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 1045 1046 1047 1048 1049 1050 1051 1052 1053 1054 1055 1056 1057 1058 1059 1060 1061 1062 1063 1064 1065 1066 1067 1068 1069 1070 1071 1072 1073 1074 1075 1076 1077 1078 1079 1080 1081 1082 1083 1084 1085 1086 1087 1088 1089 1090 1091 1092 1093 1094 1095 1096 1097 1098 1099 1100 1101 1102 1103 1104 1105 1106 1107 1108 1109 1110 1111 1112 1113 1114 1115 1116 1117 1118 1119 1120 1121 1122 1123 1124 1125 1126 1127 1128 1129 1130 1131 1132 1133 1134 1135 1136 1137 1138 1139 1140 1141 1142 1143 1144 1145 1146 1147 1148 1149 1150 1151 1152 1153 1154 1155 1156 1157 1158 1159 1160 1161 1162 1163 1164 1165 1166 1167 1168 1169 1170 1171 1172 1173 1174 1175 1176 1177 1178 1179 1180 1181 1182 1183 1184 1185 1186 1187 1188 1189 1190 1191 1192 1193 1194 1195 1196 1197 1198 1199 1200 1201 1202 1203 1204 1205 1206 1207 1208 1209 1210 1211 1212 1213 1214 1215 1216 1217 1218 1219 1220 1221 1222 1223 1224 1225 1226 1227 1228 1229 1230 1231 1232 1233 1234 1235 1236 1237 1238 1239 1240 1241 1242 1243 1244 1245 1246 1247 1248 1249 1250 1251 1252 1253 1254 1255 1256 1257 1258 1259 1260 1261 1262 1263 1264 1265 1266 1267 1268 1269 1270 1271 1272 1273 1274 1275 1276 1277 1278 1279 1280 1281 1282 1283 1284 1285 1286 1287 1288 1289 1290 1291 1292 1293 1294 1295 1296 1297 1298 1299 1300 1301 1302 1303 1304 1305 1306 1307 1308 1309 1310 1311 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321 1322 1323 1324 1325 1326 1327 1328 1329 1330 1331 1332 1333 1334 1335 1336 1337 1338 1339 1340 1341 1342 1343 1344 1345 1346 1347 1348 1349 1350 1351 1352 1353 1354 1355 1356 1357 1358 1359 1360 1361 1362 1363 1364 1365 1366 1367 1368 1369 1370 1371 1372 1373 1374 1375 1376 1377 1378 1379 1380 1381 1382 1383 1384 1385 1386 1387 1388 1389 1390 1391 1392 1393 1394 1395 1396 1397 1398 1399 1400 1401 1402 1403 1404 1405 1406 1407 1408 1409 1410 1411 1412 1413 1414 1415 1416 1417 1418 1419 1420 1421 1422 1423 1424 1425 1426 1427 1428 1429 1430 1431 1432 1433 1434 1435 1436 1437 1438 1439 1440 1441 1442 1443 1444 1445 1446 1447 1448 1449 1450 1451 1452 1453 1454 1455 1456 1457 1458 1459 1460 1461 1462 1463 1464 1465 1466 1467 1468 1469 1470 1471 1472 1473 1474 1475 1476 1477 1478 1479 1480 1481 1482 1483 1484 1485 1486 1487 1488 1489 1490 1491 1492 1493 1494 1495 1496 1497 1498 1499 1500 1501 1502 1503 1504 1505 1506 1507 1508 1509 1510 1511 1512 1513 1514 1515 1516 1517 1518 1519 1520 1521 1522 1523 1524 1525 1526 1527 1528 1529 1530 1531 1532 1533 1534 1535 1536 1537 1538 1539 1540 1541 1542 1543 1544 1545 1546 1547 1548 1549 1550 1551 1552 1553 1554 1555 1556 1557 1558 1559 1560 1561 1562 1563 1564 1565 1566 1567 1568 1569 1570 1571 1572 1573 1574 1575 1576 1577 1578 1579 1580 1581 1582 1583 1584 1585 1586 1587 1588 1589 1590 1591 1592 1593 1594 1595 1596 1597 1598 1599 1600 1601 1602 1603 1604 1605 1606 1607 1608 1609 1610 1611 1612 1613 1614 1615 1616 1617 1618 1619 1620 1621 1622 1623 1624 1625 1626 1627 1628 1629 1630 1631 1632 1633 1634 1635 1636 1637 1638 1639 1640 1641 1642 1643 1644 1645 1646 1647 1648 1649 1650 1651 1652 1653 1654 1655 1656 1657 1658 1659 1660 1661 1662 1663 1664 1665 1666 1667 1668 1669 1670 1671 1672 1673 1674 1675 1676 1677 1678 1679 1680 1681 1682 1683 1684 1685 1686 1687 1688 1689 1690 1691 1692 1693 1694 1695 1696 1697 1698 1699 1700 1701 1702 1703 1704 1705 1706 1707 1708 1709 1710 1711 1712 1713 1714 1715 1716 1717 1718 1719 1720 1721 1722 1723 1724 1725 1726 1727 1728 1729 1730 1731 1732 1733 1734 1735 1736 1737 1738 1739 1740 1741 1742 1743 1744 1745 1746 1747 1748 1749 1750 1751 1752 1753 1754 1755 1756 1757 1758 1759 1760 1761 1762 1763 1764 1765 1766 1767 1768 1769 1770 1771 1772 1773 1774 1775 1776 1777 1778 1779 1780 1781 1782 1783 1784 1785 1786 1787 1788 1789 1790 1791 1792 1793 1794 1795 1796 1797 1798 1799 1800 1801 1802 1803 1804 1805 1806 1807 1808 1809 1810 1811 1812 1813 1814 1815 1816 1817 1818 1819 1820 1821 1822 1823 1824 1825 1826 1827 1828 1829 1830 1831 1832 1833 1834 1835 1836 1837 1838 1839 1840 1841 1842 1843 1844 1845 1846 1847 1848 1849 1850 1851 1852 1853 1854 1855 1856 1857 1858 1859 1860 1861 1862 1863 1864 1865 1866 1867 1868 1869 1870 1871 1872 1873 1874 1875 1876 1877 1878 1879 1880 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350 2351 2352 2353 2354 2355 2356 2357 2358 2359 2360 2361 2362 2363 2364 2365 2366 2367 2368 2369 2370 2371 2372 2373 2374 2375 2376 2377 2378 2379 2380 2381 2382 2383 2384 2385 2386 2387 2388 2389 2390 2391 2392 2393 2394 2395 2396 2397 2398 2399 2400 2401 2402 2403 2404 2405 2406 2407 2408 2409 2410 2411 2412 2413 2414 2415 2416 2417 2418 2419 2420 2421 2422 2423 2424 2425 2426 2427 2428 2429 2430 2431 2432 2433 2434 2435 2436 2437 2438 2439 2440 2441 2442 2443 2444 2445 2446 2447 2448 2449 2450 2451 2452 2453 2454 2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469 2470 2471 2472 2473 2474 2475 2476 2477 2478 2479 2480 2481 2482 2483 2484 2485 2486 2487 2488 2489 2490 2491 2492 2493 2494 2495 2496 2497 2498 2499 2500 2501 2502 2503 2504 2505 2506 2507 2508 2509 2510 2511 2512 2513 2514 2515 2516 2517 2518 2519 2520 2521 2522 2523 2524 2525 2526 2527 2528 2529 2530 2531 2532 2533 2534 2535 2536 2537 2538 2539 2540 2541 2542 2543 2544 2545 2546 2547 2548 2549 2550 2551 2552 2553 2554 2555 2556 2557 2558 2559 2560 2561 2562 2563 2564 2565 2566 2567 2568 2569 2570 2571 2572 2573 2574 2575 2576 2577 2578 2579 2580 2581 2582 2583 2584 2585 2586 2587 2588 2589 2590 2591 2592 2593 2594 2595 2596 2597 2598 2599 2600 2601 2602 2603 2604 2605 2606 2607 2608 2609 2610 2611 2612 2613 2614 2615 2616 2617 2618 2619 2620 2621 2622 2623 2624 2625 2626 2627 2628 2629 2630 2631 2632 2633 2634 2635 2636 2637 2638 2639 2640 2641 2642 2643 2644 2645 2646 2647 2648 2649 2650 2651 2652 2653 2654 2655 2656 2657 2658 2659 2660 2661 2662 2663 2664 2665 2666 2667 2668 2669 2670 2671 2672 2673 2674 2675 2676 2677 2678 2679 2680 2681 2682 2683 2684 2685 2686 2687 2688 2689 2690 2691 2692 2693 2694 2695 2696 2697 2698 2699 2700 2701 2702 2703 2704 2705 2706 2707 2708 2709 2710 2711 2712 2713 2714 2715 2716 2717 2718 2719 2720 2721 2722 2723 2724 2725 2726 2727 2728 2729 2730 2731 2732 2733 2734 2735 2736 2737 2738 2739 2740 2741 2742 2743 2744 2745 2746 2747 2748 2749 2750 2751 2752 2753 2754 2755 2756 2757 2758 2759 2760 2761 2762 2763 2764 2765 2766 2767 2768 2769 2770 2771 2772 2773 2774 2775 2776 2777 2778 2779 2780 2781 2782 2783 2784 2785 2786 2787 2788 2789 2790 2791 2792 2793 2794 2795 2796 2797 2798 2799 2800 2801 2802 2803 2804 2805 2806 2807 2808 2809 2810 2811 2812 2813 2814 2815 2816 2817 2818 2819 2820 2821 2822 2823 2824 2825 2826 2827 2828 2829 2830 2831 2832 2833 2834 2835 2836 2837 2838 2839 2840 2841 2842 2843 2844 2845 2846 2847 2848 2849 2850 2851 2852 2853 2854 2855 2856 2857 2858 2859 2860 2861 2862 2863 2864 2865 2866 2867 2868 2869 2870 2871 2872 2873 2874 2875 2876 2877 2878 2879 2880 2881 2882 2883 2884 2885 2886 2887 2888 2889 2890 2891 2892 2893 2894 2895 2896 2897 2898 2899 2900 2901 2902 2903 2904 2905 2906 2907 2908 2909 2910 2911 2912 2913 2914 2915 2916 2917 2918 2919 2920 2921 2922 2923 2924 2925 2926 2927 2928 2929 2930 2931 2932 2933 2934 2935 2936 2937 2938 2939 2940 2941 2942 2943 2944 2945 2946 2947 2948 2949 2950 2951 2952 2953 2954 2955 2956 2957 2958 2959 2960 2961 2962 2963 2964 2965 2966 2967 2968 2969 2970 2971 2972 2973 2974 2975 2976 2977 2978 2979 2980 2981 2982 2983 2984 2985 2986 2987 2988 2989 2990 2991 2992 2993 2994 2995 2996 2997 2998 2999 3000 3001 3002 3003 3004 3005 3006 3007 3008 3009 3010 3011 3012 3013 3014 3015 3016 3017 3018 3019 3020 3021 3022 3023 3024 3025 3026 3027 3028 3029 3030 3031 3032 3033 3034 3035 3036 3037 3038 3039 3040 3041 3042 3043 3044 3045 3046 3047 3048 3049 3050 3051 3052 3053 3054 3055 3056 3057 3058 3059 3060 3061 3062 3063 3064 3065 3066 3067 3068 3069 3070 3071 3072 3073 3074 3075 3076 3077 3078 3079 3080 3081 3082 3083 3084 3085 3086 3087 3088 3089 3090 3091 3092 3093 3094 3095 3096 3097 3098 3099 3100 3101 3102 3103 3104 3105 3106 3107 3108 3109 3110 3111 3112 3113 3114 3115 3116 3117 3118 3119 3120 3121 3122 3123 3124 3125 3126 3127 3128 3129 3130 3131 3132 3133 3134 3135 3136 3137 3138 3139 3140 3141 3142 3143 3144 3145 3146 3147 3148 3149 3150 3151 3152 3153 3154 3155 3156 3157 3158 3159 3160 3161 3162 3163 3164 3165 3166 3167 3168 3169 3170 3171 3172 3173 3174 3175 3176 3177 3178 3179 3180 3181 3182 3183 3184 3185 3186 3187 3188 3189 3190 3191 3192 3193 3194 3195 3196 3197 3198 3199 3200 3201 3202 3203 3204 3205 3206 3207 3208 3209 3210 3211 3212 3213 3214 3215 3216 3217 3218 3219 3220 3221 3222 3223 3224 3225 3226 3227 3228 3229 3230 3231 3232 3233 3234 3235 3236 3237 3238 3239 3240 3241 3242 3243 3244 3245 3246 3247 3248 3249 3250 3251 3252 3253 3254 3255 3256 3257 3258 3259 3260 3261 3262 3263 3264 3265 3266 3267 3268 3269 3270 3271 3272 3273 3274 3275 3276 3277 3278 3279 3280 3281 3282 3283 3284 3285 3286 3287 3288 3289 3290 3291 3292 3293 3294 3295 3296 3297 3298 3299 3300 3301 3302 3303 3304 3305 3306 3307 3308 3309 3310 3311 3312 3313 3314 3315 3316 3317 3318 3319 3320 3321 3322 3323 3324 3325 3326 3327 3328 3329 3330 3331 3332 3333 3334 3335 3336 3337 3338 3339 3340 3341 3342 3343 3344 3345 3346 3347 3348 3349 3350 3351 3352 3353 3354 3355 3356 3357 3358 3359 3360 3361 3362 3363 3364 3365 3366 3367 3368 3369 3370 3371 3372 3373 3374 3375 3376 3377 3378 3379 3380 3381 3382 3383 3384 3385 3386 3387 3388 3389 3390 3391 3392 3393 3394 3395 3396 3397 3398 3399 3400 3401 3402 3403 3404 3405 3406 3407 3408 3409 3410 3411 3

FIGURE 3A

Deduced amino acid sequence of PP2A-2 from *Physcomitrella patens* (SEQ ID NO:11)

MHCGGYPDHASGRFGVRPMEPLTLAVADLDPDLLQLPADFTPFA SPSSSSPASVGVS NK
LGGVCRLHLEELYAQWISLPDTQRLVTNLL EEAKGGAGHPNVGLSLLPGHLSGAAGSTP
PLPPRSSGSPMSPRSPFSRRMGTS HLMRDSPLKKSSEPVREIIPQFYFPNGPPPSKDTIESC
MARVNQIFGAHPEGLPASAFATITKDVCKLPSFFSMALFKKIDINNTGLVTRDKFVEYW
VDQNMLAMDTATRVFTVLKQPDKNFLRQEDFRPVLRELLLTHRGLEFLHDTPEFQDRY
AETVIYRIFYHVN RAGNGRLQLRELKRSNLIAALQQVDEEEDINKVLR YFSYEHFYVIYC
KFWELSDHDFLIDKDDLRLYGNHALTYRIVERIFSQVPRKFTSKVAGKMGYEDFVWFI
LSEEDKSSEPSLEYWFKCVDLDCDGM IILNEMQYFYEEQLHRMECMAQEPVLFEDIVCQ
MTDMIGPANEGRLTLRDLKRCKLSGNFFN ILFNLNKFVAFETRDPFLIRQEREDPSLTEW
DRFAHIEYIRLSMEEDGEDASNGSAE VWDEPGYEAPF*

FIGURE 3B

Deduced amino acid sequence of PP2A-3 from *Physcomitrella patens* (SEQ ID NO:12)

MISGASGAPAGAPVPTATGSVAAPLPALEWKFSQVFGERAIGEEVQEVDIISAIEFDKTGE
HLATGDRGGRVVLFFERTDGKDQRTTRRELERADSAGSRHPEYRYSTEFQSHEPEFDYLKS
LEIEEKINKIRWCQTANAAQFLISTNDKTIKLWKVTEKKVKQVKNLNVDPGARGNGNPL
SNNMMLNPKGFAPRLSMNGVAANRSTPAISPDFVFPPGGIPSLHLPVWSNETALVARC
RRAYANAHAYHINSISNNSDCETYISADDLRLNLWNLEVSDQSFNIVDIKPTNMEDLTEVI
TSAEFHPSHCNVLAYSSSKGSIRLIDMRQSALCDRHSKLFEE TEHAGSRSSFTEIIASISDIK
FARGGRYILSRDYMTLKLWDVNMESSPVA VFKVHEYLRPKLCDLYENDSIFDKFECCLS
GDGMRVATGSYSNLFRVFGAATGSEEA STLEASKTPNRRIVTPPSKAGSRLANLARGRR
DNRRGGESPGIDLNGGVQDFTSKLLHLA WHPAANVIAFALARCSLHPTACTC*

100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2400 2500 2600 2700 2800 2900 3000 3100 3200 3300 3400 3500 3600 3700 3800 3900 4000 4100 4200 4300 4400 4500 4600 4700 4800 4900 5000 5100 5200 5300 5400 5500 5600 5700 5800 5900 6000 6100 6200 6300 6400 6500 6600 6700 6800 6900 7000 7100 7200 7300 7400 7500 7600 7700 7800 7900 8000 8100 8200 8300 8400 8500 8600 8700 8800 8900 9000 9100 9200 9300 9400 9500 9600 9700 9800 9900 10000 10100 10200 10300 10400 10500 10600 10700 10800 10900 11000 11100 11200 11300 11400 11500 11600 11700 11800 11900 12000 12100 12200 12300 12400 12500 12600 12700 12800 12900 13000 13100 13200 13300 13400 13500 13600 13700 13800 13900 14000 14100 14200 14300 14400 14500 14600 14700 14800 14900 15000 15100 15200 15300 15400 15500 15600 15700 15800 15900 16000 16100 16200 16300 16400 16500 16600 16700 16800 16900 17000 17100 17200 17300 17400 17500 17600 17700 17800 17900 18000 18100 18200 18300 18400 18500 18600 18700 18800 18900 19000 19100 19200 19300 19400 19500 19600 19700 19800 19900 20000 20100 20200 20300 20400 20500 20600 20700 20800 20900 21000 21100 21200 21300 21400 21500 21600 21700 21800 21900 22000 22100 22200 22300 22400 22500 22600 22700 22800 22900 23000 23100 23200 23300 23400 23500 23600 23700 23800 23900 24000 24100 24200 24300 24400 24500 24600 24700 24800 24900 25000 25100 25200 25300 25400 25500 25600 25700 25800 25900 26000 26100 26200 26300 26400 26500 26600 26700 26800 26900 27000 27100 27200 27300 27400 27500 27600 27700 27800 27900 28000 28100 28200 28300 28400 28500 28600 28700 28800 28900 29000 29100 29200 29300 29400 29500 29600 29700 29800 29900 30000 30100 30200 30300 30400 30500 30600 30700 30800 30900 31000 31100 31200 31300 31400 31500 31600 31700 31800 31900 32000 32100 32200 32300 32400 32500 32600 32700 32800 32900 33000 33100 33200 33300 33400 33500 33600 33700 33800 33900 34000 34100 34200 34300 34400 34500 34600 34700 34800 34900 35000 35100 35200 35300 35400 35500 35600 35700 35800 35900 36000 36100 36200 36300 36400 36500 36600 36700 36800 36900 37000 37100 37200 37300 37400 37500 37600 37700 37800 37900 38000 38100 38200 38300 38400 38500 38600 38700 38800 38900 39000 39100 39200 39300 39400 39500 39600 39700 39800 39900 40000 40100 40200 40300 40400 40500 40600 40700 40800 40900 41000 41100 41200 41300 41400 41500 41600 41700 41800 41900 42000 42100 42200 42300 42400 42500 42600 42700 42800 42900 43000 43100 43200 43300 43400 43500 43600 43700 43800 43900 44000 44100 44200 44300 44400 44500 44600 44700 44800 44900 45000 45100 45200 45300 45400 45500 45600 45700 45800 45900 46000 46100 46200 46300 46400 46500 46600 46700 46800 46900 47000 47100 47200 47300 47400 47500 47600 47700 47800 47900 48000 48100 48200 48300 48400 48500 48600 48700 48800 48900 49000 49100 49200 49300 49400 49500 49600 49700 49800 49900 50000 50100 50200 50300 50400 50500 50600 50700 50800 50900 51000 51100 51200 51300 51400 51500 51600 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FIGURE 3C

Deduced amino acid sequence of PP2A-4 from *Physcomitrella patens* (SEQ ID NO:13)

MPSYADVDRQIEQLSECKPLSELEVKNLCDQARTILVEEWNVQPVKCPVTVCGDIHGQF
HDLIELFRIGGKAPDTNYLFMGDYVDRGYYSVETVSLLVALKVRYRDRITILRGNHESR
QITQVYGFYDECLRKYGNANVWKYFTDLFDYLPLTALIEHEIFCLHGGLSPSLDTLDHIR
ALDRIQEVPHGPMCDLLWSDPDDRC^{*}GWGISPRGAGYTFGQDIAEQFNHTNGLSLVAR
AHQLVMEGYNWCQDKNVTVFSAPNYCYRCGNMAAIMEIDETMNRSFLQFEPAPRQS
EPDVTRKTPDYFL*

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FIGURE 3D

Deduced amino acid sequence of PP2C-1 from *Physcomitrella patens* (SEQ ID NO:14)

MGIYLCSPKTDKTSSEDDENAELRYGLSAMQGWDRSMEDAHKAILNVDKNTSTSIFGIFD
GHGGKLVAKFCAKHLHQEVLKSEYAKGDLKASLEYSFLRMDMMKGASGWKELQSL
EETSSQLDKLGNGNSSSNAREDDSDYSYAVLTESNDSNLATKKHKYSDFQGPIYGSTAV
VALIRGNKLFVANAGDSRCIMSRERGEAVNLSIDHKPNLEHERKRIESAGGFVHGGRVNGS
LNLTRAIGDMEFKGRPDLPPDKQVVTCCPDVVEVDLGPGEFIVLACDGIWDVMSSQAV
VDFVKSRLPTTKTLSSLCEEILDYCLSPTRQQEGCDNMSIIIVQPKQSGVAASSSTD*

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FIGURE 3E

Deduced amino acid sequence of PP2C-2 from *Physcomitrella patens* (SEQ ID NO:15)

MVEWVMKMLMACWRPVQKYTHLGEENGDNHDPLLWHKDLGDHAAGQFSIAAVQAN
AILEDMVQVETGPFGTFTGVYDGHGGPEASRYVNDSLYRHLQKFATQHGGMSSEVLQ
QAFKQTEEGFLEIVRDSWLTKPQIAAVGSCCLVGVVWECKLYIASLGDSKAVLGRFSRN
LQSVIATEISTEHNASVEAVRQDLQAAHPDDPRIVVLRHGVWRVKGLIQVSRSIGDVYL
KKAEFNREPLIGRFRLPEPLQRPVMSAEPDIRVIDLTPDVEFVIFASDGLWEHLSNQEAVD
IVHKYPRAGIARQLIRYALHEAAKKREMRYSDLKKIERGIRRHFDHDDITVVVVFLDHNL
VSNGSGISHHISVKGGVDKPS*

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FIGURE 4

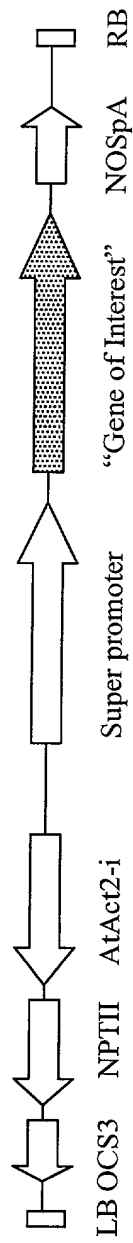
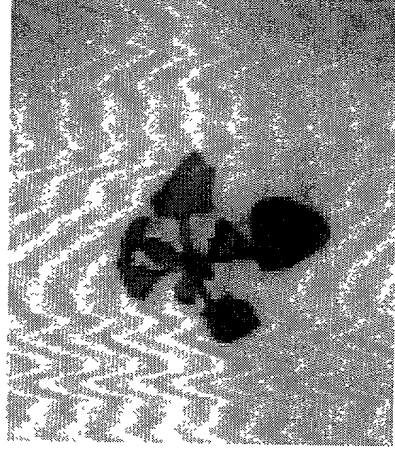
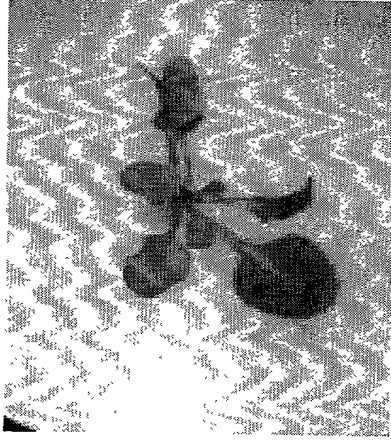
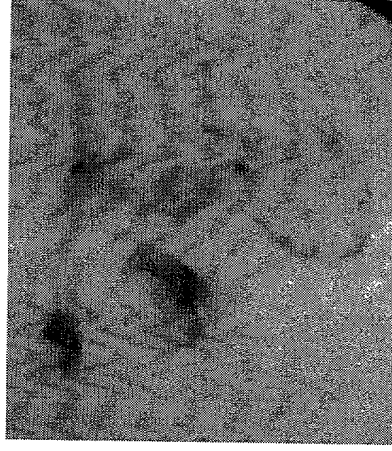
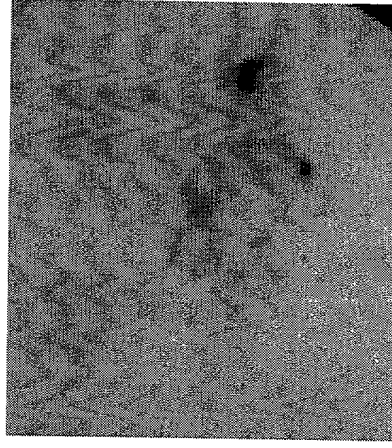
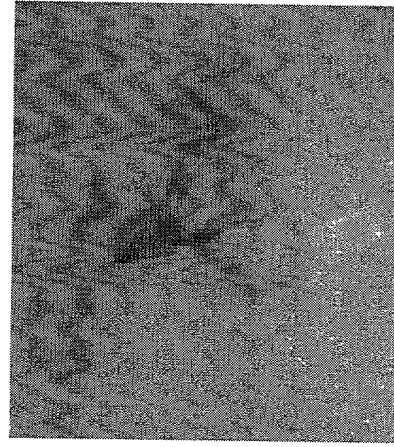


Figure 5

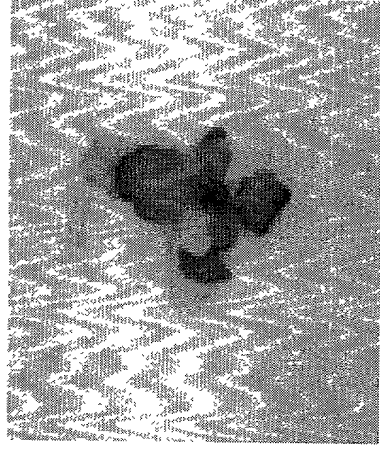
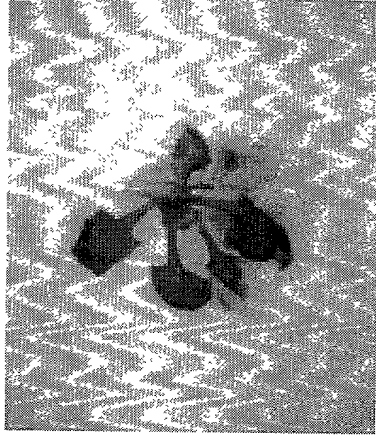
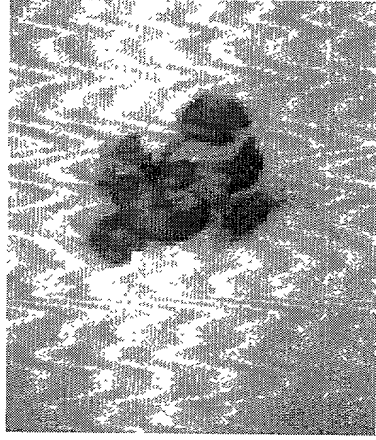


PpPP2A-2

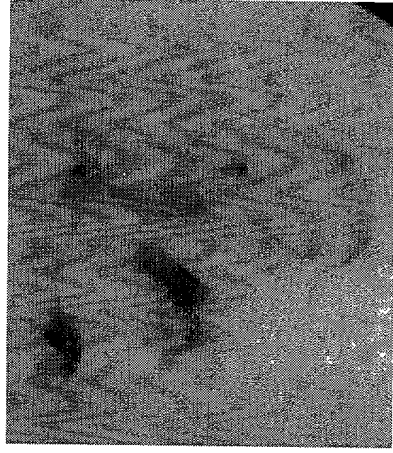
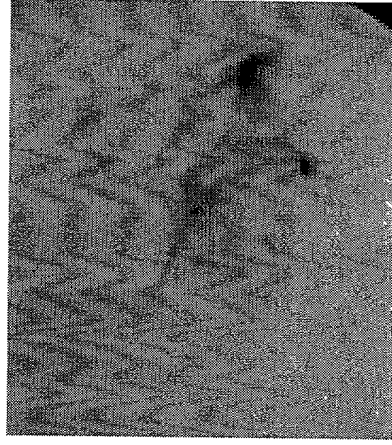
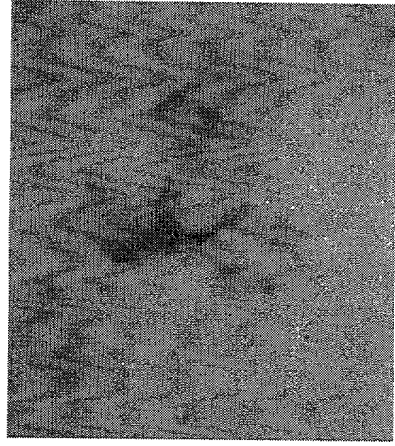


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Figure 6

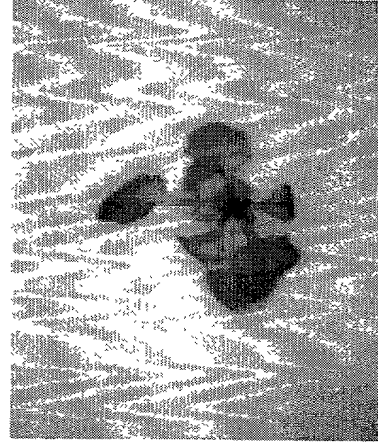


PpPP2A-3

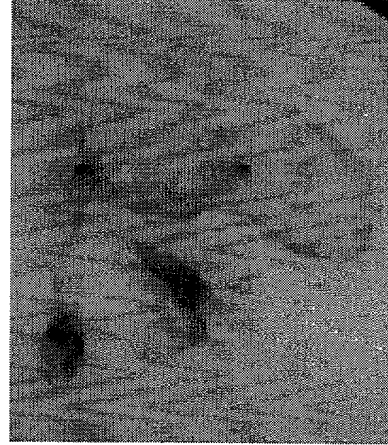
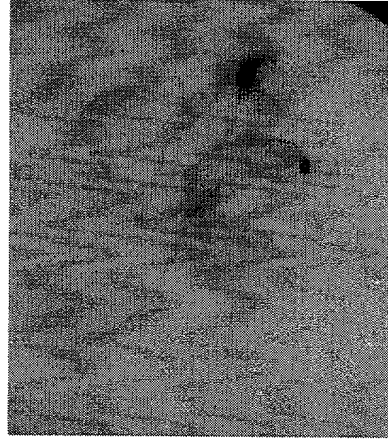
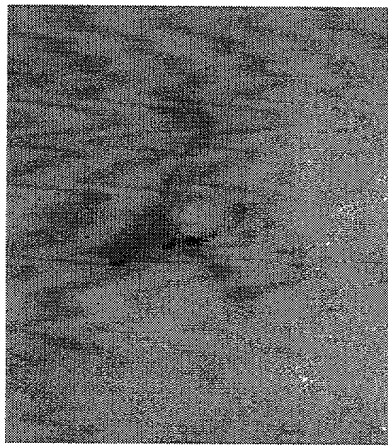


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Figure 7

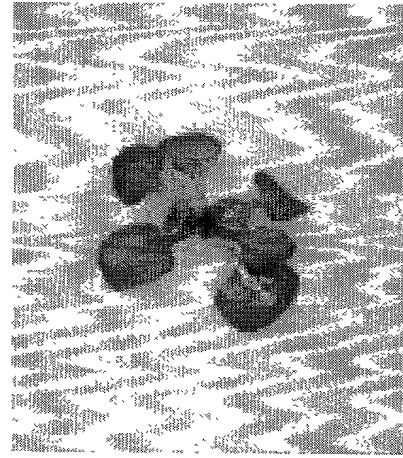
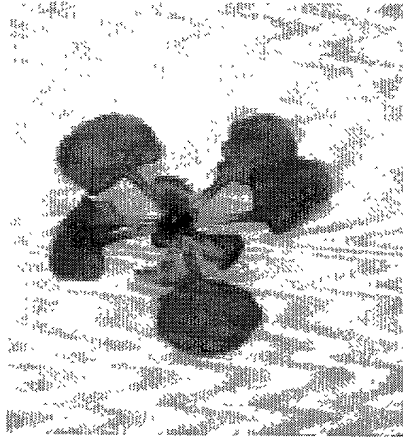
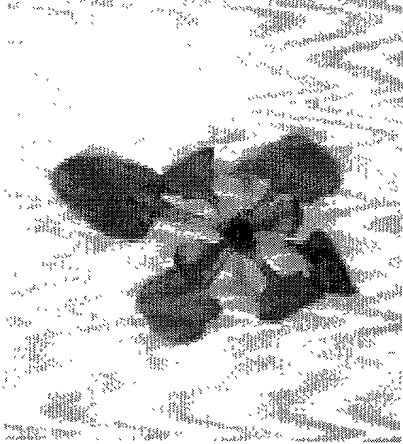


PpPP2A-4

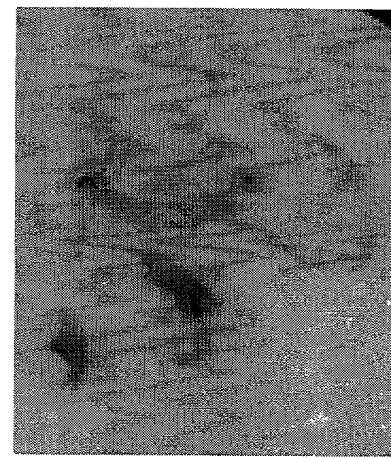
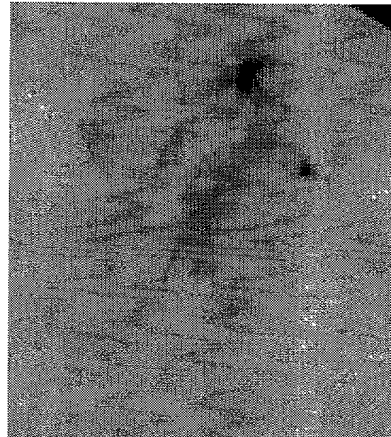
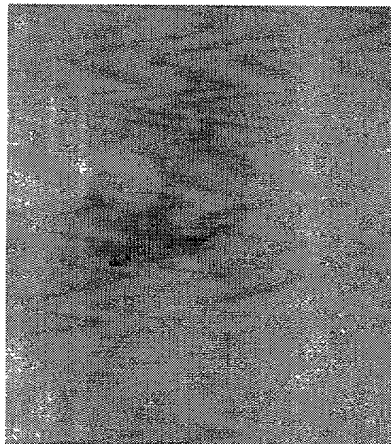


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Figure 8

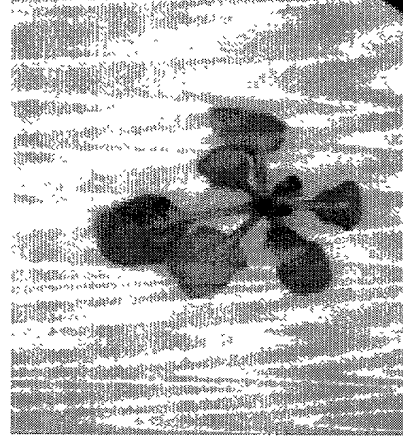
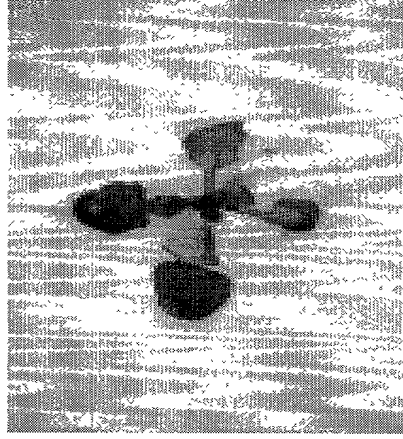
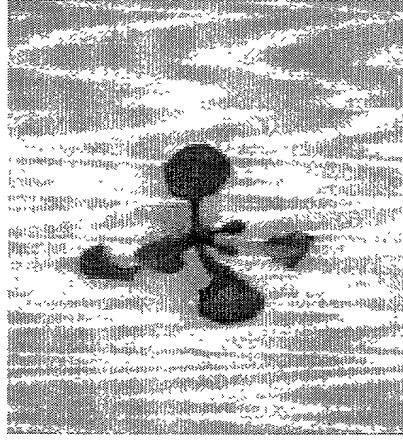


PpPP2C-1

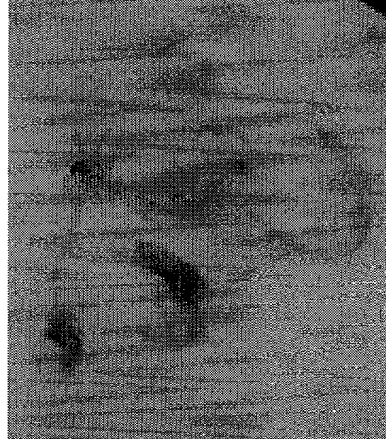
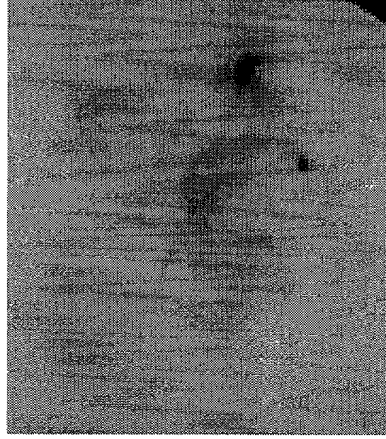
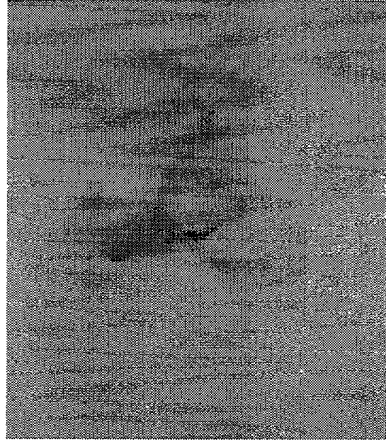


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Figure 9

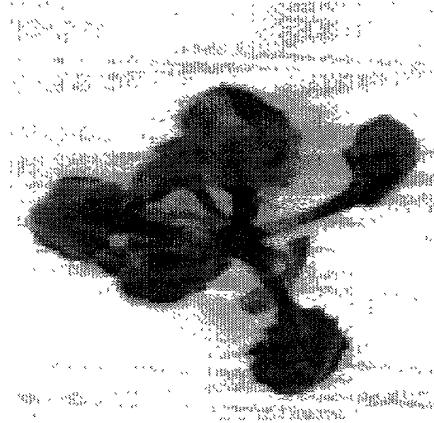


PpPP2C-2

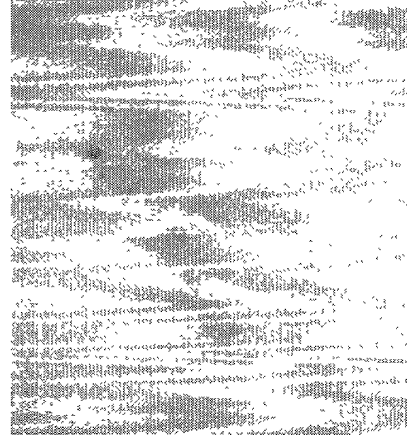
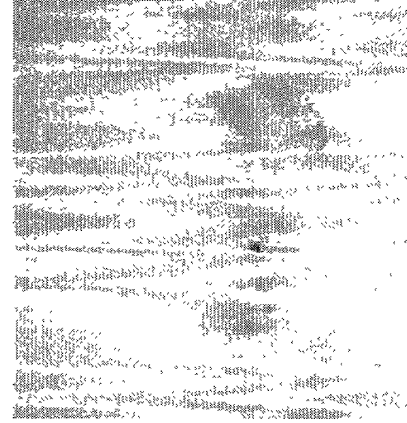
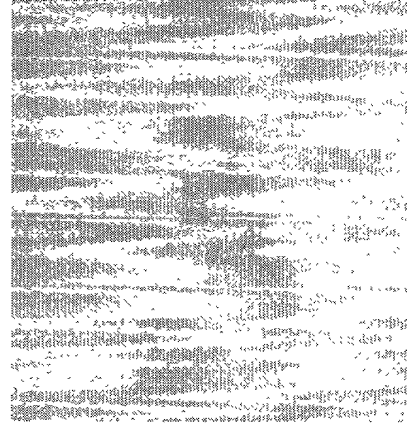


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Figure 10

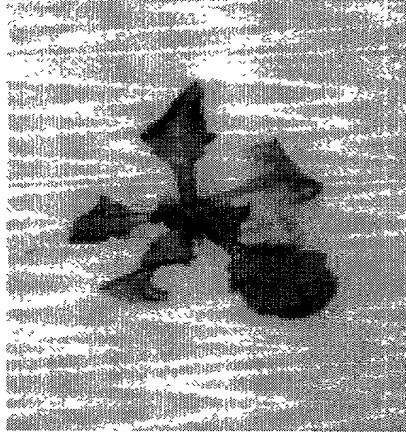
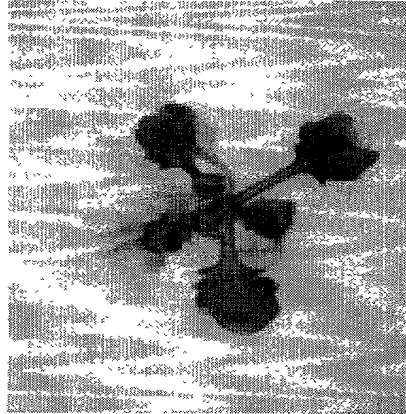
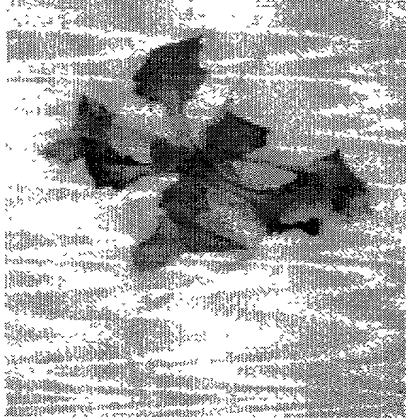


PpPP2A-2

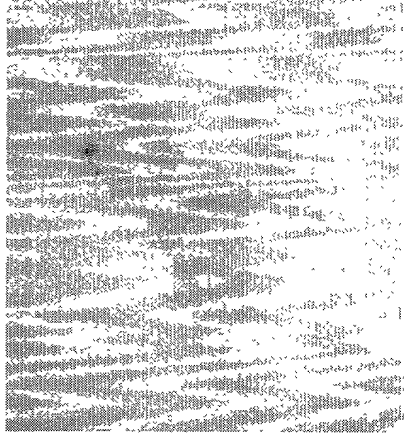
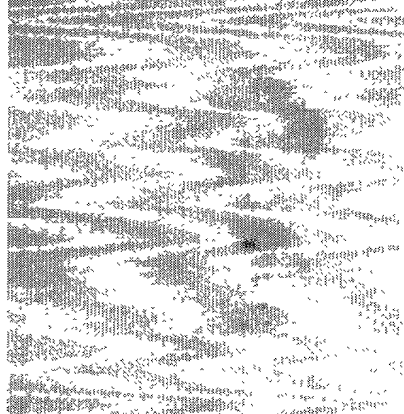
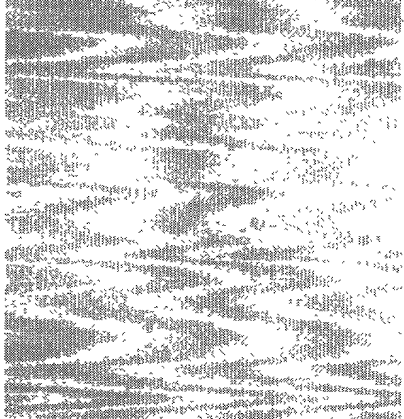


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Figure 11



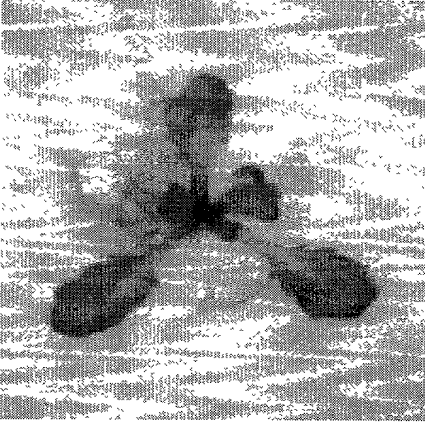
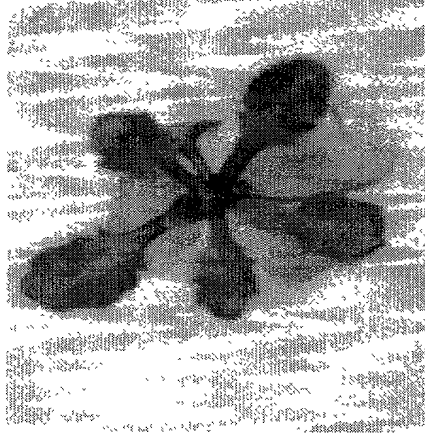
PpPP2A-4



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Figure 12

PpPP2C-1



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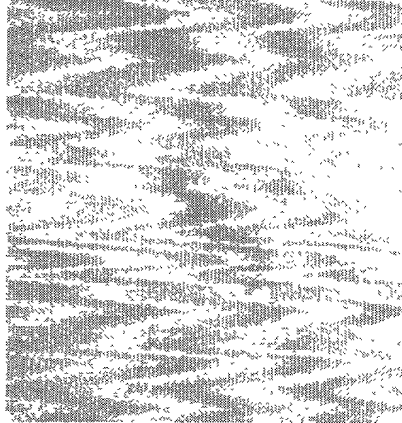
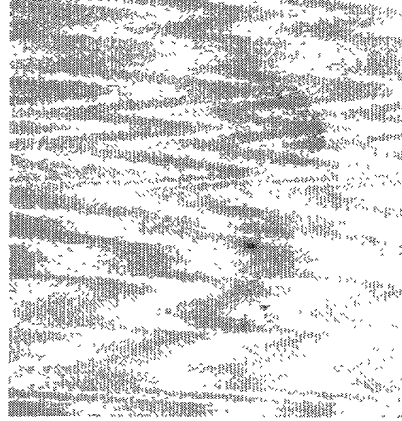
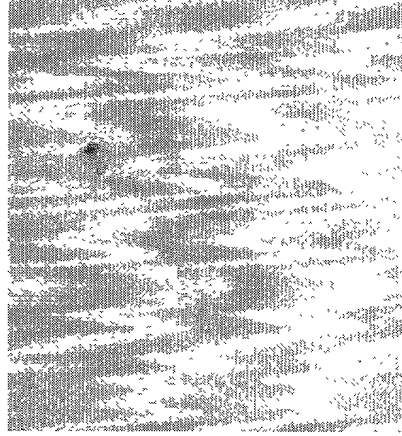
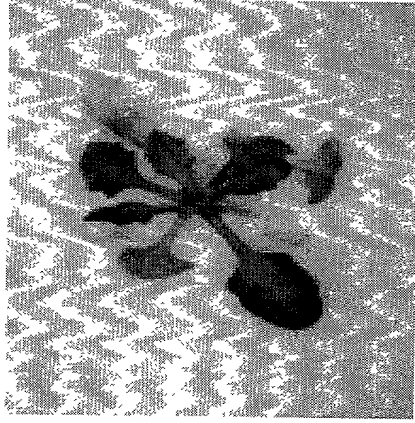
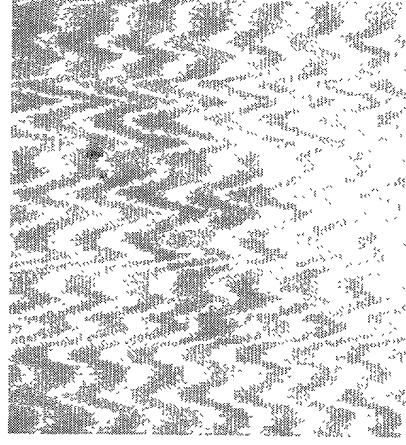
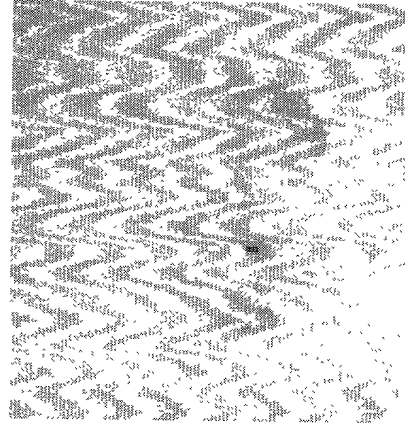
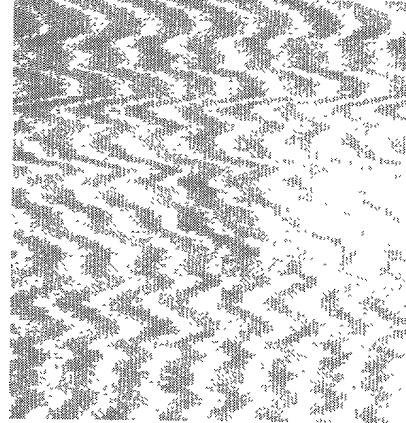


Figure 13



PpPP2C-2



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